

Effective pursuit strategies in simple motion differential game of three pursuers and one evader

ABSTRACT

We consider a simple motion pursuit differential game of three pursuers and one evader with equal dynamic possibilities in the plane. Geometric constraints are imposed on the controls of players and the control set of each player is unit circle centered at the origin. Pursuit is said to be completed if the state of at least one of the pursuers coincides with that of evader. In this paper, we construct a new effective strategy for the pursuers. We prove that new strategy has advantage over the P-strategy.

Keyword: Differential game; Many pursuers; Evader; Control; Strategy